

REMARKS

Claims 80 – 82 (first occurrence), 83 – 86 and 95 – 102 were pending. Claims 1 - 79, 82 (second occurrence) and 103 -106 were previously cancelled. By means of the present amendment, claims 82 (second occurrence) through 106 as originally presented, including all cancelled claims in that sequence, have now been renumbered as claims 83 – 107, as requested by the Examiner. In addition, claims 81 and 82 have been rewritten as independent claims but are otherwise unchanged. Claims 97 and 98 (as renumbered) have been also rewritten as independent claims but are otherwise unchanged. Claims 96 – 103 (as renumbered) have also been amended to substitute "An" for "A", to correct their grammar. Claim 84 (as renumbered) has been amended to correct a typographical error. No substantive amendments have been made to any claims.

I. Claim numbering

The claims as submitted in August, 2008 erroneously included two claims numbered 82. In an attempt to correct this error, the attorney for applicants cancelled the second claim 82. The attorney for Applicants has corrected similar errors in this fashion without objection in the past. Cancellation of the second claim 82 is respectfully asserted to have complied with the rules and indeed to be preferable to renumbering a significant number of claims as would be otherwise required. However, in compliance with the Office Action of March 16, 2010, the Attorney for Applicants has now renumbered claims 82 (second occurrence) to 106 as claims 83 – 107. It is earnestly hoped that this approach to amending the claims will meet with the Examiner's approval.

II. Rejections under Section 103 – Claims 80 – 85 (as renumbered) and 96 – 101 (as renumbered)

In the Official Action, all remaining claims are now rejected as obvious over U.S Patent No. 5,957,861, issued to Combs, et al. in view of Scheulke, et al.(US5,775,742) The Official Action indicates that the previous final rejection of these claims was intended to be based upon the Combs '186 patent, rather than the 'Combs '949 patent as stated in the Final Office Action. Based upon the citation of the Schuelke reference in the present Office Action, it is understood that the intended previous rejection over the Combs'861 has been withdrawn and that Combs '861 by itself is not presently asserted to render the remaining claims invalid.

In the Official Action, all remaining claims are now rejected as obvious over U.S Patent No. 5,957,861, issued to Combs, et al. in view of Scheulke, et al.(US5,775,742) This rejection is respectfully traversed for the reasons set forth below..

A. Rejections of Claims 80 – 82, 84, 85 and 96 – 101 (as renumbered)

The rejections of these claims are expressly based upon the argument that the addition of a lead impedance check as in Scheulke to the device of Combs '861 is obvious and obviously results in the claimed invention. It is not disputed that the general concept of adding a lead impedance checking function to the Combs'861 device is obvious. Lead impedance testing is a well known function of cardiac pacemakers and the general notion of adding it to any pacemaker, in some way or other, is acknowledged to be obvious. However, the claims of the present application require more. They specifically require that the same measured impedances are used to both measure fluid content and to monitor lead integrity. It is respectfully asserted that adding the impedance measurement function of Scheulke to Combs '681 does not produce or suggest this result.

The lead impedance measuring circuitry in Scheulke employs a lead impedance measurement technique quite different from that of Combs'861. The pulses generated to measure impedance are generated by the high voltage output circuitry of Scheulke rather than the pacing pulse generation circuitry as used by Combs, et al. The arrangement for measuring impedance in Scheulke is optimized to measure lead impedance while the impedance measurement arrangement in Combs '861 is optimized to measure tissue impedance. Addition of the lead integrity measurement system of Scheulke to Combs thus would result in a device having two separate impedance measurement mechanisms. Absent some recognition that the same impedance measurements may be simultaneously usefully employed to measure both lead tissue impedance and lead integrity, it is respectfully asserted that combining the Scheulke and Combs'861 references does not render the inventions as claimed in any of the remaining claims obvious. Both Combs '861 and Scheulke lack this same essential teaching.

Withdrawal of the rejections of claims 80 – 82, 84, 85 and 96 – 101 (as renumbered) is respectfully requested for this reason.

B. Rejections of Claims 86, 87, 102 and 103 (as renumbered)

These claims are rejected based upon the assertion that Scheulke teaches cross-checking of measured impedances between two electrodes by measuring impedance using a third electrode. However, the portions of Scheulke discussed in conjunction with this rejection deal with individual impedance measurements of individual lead impedances performed using three electrodes. A single measurement of each relevant lead impedance is made using a different selected set of three electrodes. The cross checking function as claimed simply is not present. Claims 86, 87, 102 and 103 (as renumbered) are this respectfully asserted to be patentable over the cited references for this reason, regardless of the patentability of the other claims.

Withdrawal of the rejections of claims 86, 87, 102 and 103 (as renumbered) is respectfully requested for this reason.

Further, these claims all require that the impedance measurements which are cross checked are a set of impedances indicative of tissue fluid content. This aspect of the claimed is similarly undisclosed in Scheulke. The impedance measurements of Scheulke are of lead impedance and are not cross-checked as a set for any purpose whatsoever.

Withdrawal of the rejections of claims 86, 87, 102 and 103 (as renumbered) is respectfully requested for this reason as well.

C. Rejections of Claims 81 and 97 (as renumbered)

These claims require declaring the set of measured impedances indicative of fluid content valid or invalid as a result of the lead integrity measurement. Neither combs'861 nor Scheulke discloses or suggests this aspect of the claimed invention.

Claims 81 and 97 (as renumbered) are this respectfully asserted to be patentable over the cited references for this reason, regardless of the patentability of the other claims.

Withdrawal of the rejections of claims 81 and 97 (as renumbered) is respectfully requested for this reason as well.

Further, because the Office Action does not even mention this aspect of the claimed invention, it is respectfully asserted that the rejection under Section 103 is inadequate as a matter of law for not clearly setting forth an argument as to why the combination of the cited references makes this aspect of the invention obvious.

Withdrawal of the rejections of claims 81 and 97 (as renumbered) is respectfully requested for this reason as well.

D. Rejections of Claims 87 and 103 (as renumbered)

These claims require declaring the set of measured impedances indicative of fluid content valid or invalid as a result of the cross-check measurement. Neither combs'861 nor Scheulke discloses or suggests this aspect of the claimed invention. Claims 87 and 103 (as renumbered) are this respectfully asserted to be independently patentable over the cited references for this reason, regardless of the patentability of the other claims.

Withdrawal of the rejections of claims 87 and 103 (as renumbered) is respectfully requested for this reason as well.

Further, because the Office Action does not even mention this aspect of the claimed invention, it is respectfully asserted that the rejection under Section 103 is inadequate as a matter of law for not clearly setting forth an argument as to why the combination of the cited references makes this aspect of the invention obvious.

Withdrawal of the rejections of claims 87 and 103 (as renumbered) is respectfully requested for this reason as well.

E. Rejections of Claims 84, 85, 86, 99, 100 and 101 (as renumbered)

These claims all require comparing the set of measured impedances indicative of fluid content to prior measured impedances and declaring the data set valid or invalid as a result of this comparison. Neither combs'861 nor Scheulke discloses or suggests this aspect of the claimed invention. Further, this aspect of the claimed invention is not addressed in the Office Action in any way.

Claims 84, 85, 86, 99, 100 and 101(as renumbered) are this respectfully asserted to be independently patentable over the cited references for this reason, regardless of the patentability of the other claims.

Withdrawal of the rejections of claims 84, 85, 86, 99, 100 and 101 (as renumbered) is respectfully requested for this reason as well.

Further, because the Office Action does not even mention this aspect of the claimed invention, it is respectfully asserted that the rejection under Section 103 is inadequate as a matter of law for not clearly setting forth an argument as to why the combination of the cited references makes this aspect of the invention obvious.

Withdrawal of the rejections of claims 84, 85, 86, 99, 100 and 101 (as renumbered) is respectfully requested for this reason as well.

It is respectfully requested that any new ground of rejection be in the form of a non-final rejection, as no claims have been amended in a manner that would allow for a second final rejection based upon new references.

Conclusion

All remaining claims are respectfully asserted to be allowable over the Combs '949 patent in view of the Scheulke patent. Reconsideration of the rejections of the remaining claims is respectfully requested.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned attorney to attend to these matters.

Should any issues remain outstanding, the Examiner is urged to telephone the undersigned to expedite prosecution. The Commissioner is authorized to charge any deficiencies and credit any overpayments to Deposit Account No. 13-2546.

Respectfully submitted,

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